

with fourth year medical students, and is being used in "Introductory Clinical Studies" in 1974 at the University of New South Wales. Students come from one basic discipline: in the instances cited above all are from Medicine. The teachers/resource persons, however, come from a variety of disciplines: some are medical—both specialists and general practitioners—while others are nurses, social workers, medical sociologists and clinical psychologists. Students are, over a period of a year, exposed to a wide variety of disciplinary perspectives. The weaknesses of this approach seem to me to be twofold: first, it is rather demanding in terms of the number of staff required; second, in terms of the discussion which is generated, it does not provide for the ebb and flow across disciplines because of student-homogeneity.

Conclusion

All I have tried to do in this short contribution is to suggest one approach to the teaching of an interdisciplinary course, convey a sense of the excitement that I have felt as a result of being a part of the venture over the last four years, and suggest some of the benefits that can accrue. Interdisciplinary teaching is not a panacea for all of the difficulties besetting university teaching: there is no panacea.

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APPENDIX I

Some Illustrative Research Projects Self-selected by Students

The following six examples show the range of topics which is selected by students; they, of course, give no indication of the depth and sophistication of each of the projects—in this context it may be sufficient to note that many students spend quite a few months on their project, and submit work which, at the upper level, is worthy of an Honours or Master's thesis.

1. "A Study of the Characteristics and Attitudes among Student Nurses who are Receiving Training at Different Types of Nursing Institutions". This study was designed and carried out by a senior nurse educator. Its principal aim was to assist in the design of nursing education curricula.
2. "A Study of the Dissatisfactions among Junior and Senior Nursing Students". This study was designed and carried through by a student engaged in the Bachelor of Arts-Nursing (conjoint) programme. The student reviewed the relevant literature and then carried through the study to the "pilot" stage.
3. "A Study of the Effects on Patients of Tensions in the Hospital Ward". This study was carried out by a third year Arts (Sociology) student. She commenced from a theoretical understanding of organisation theory, reviewed the relevant literature, and then applied this combined understanding to the planning, design and preliminary implementation of the above topic.
4. "A Survey of the Applications of Research Conducted on the Hospitalisation of the Child". Strictly speaking this (and the next topic) is not research *per se*, but an extended essay and analysis on the implications and applications of already existing research data. It was carried out by a medical student.
5. "A Review of the Ways in which the Social and Behavioural Sciences Can be Successfully Incorporated into Undergraduate Medical Education". This, also, is an evaluation and review of existing data. It does, however, go one stage further in (a) suggesting hypotheses concerning the successful introduction of the social and behavioural sciences; and, (b) proposing a design by which these hypotheses might be tested.
6. "An Investigation of Children's Accidents in New South Wales". The author, a teacher in social and preventive medicine, presented an international review (in statistical terms) of children's accidents, and then developed comparative Australian and New South Wales data. He then developed a research project which would shed light on the complex of forces that result in accidents of childhood.

BEHAVIOURAL SCIENCE FOR STUDENTS IN HEALTH ADMINISTRATION

ERICA M. BATES*

THE School of Health Administration at the University of New South Wales is the only one of its kind in Australia.

* Lecturer, Behavioural Science, School of Health Administration, University of New South Wales.

Administratively we belong to the Board of Professional Studies, which is, as the Pro-Vice-Chancellor once put it, a home for lost courses. We thus retain independence from various faculties which, from time to time, offer to adopt us—help us—and take us over.

The school is still reasonably small, and the academic staff form an interdisciplinary team—a health economist/statistician (professor); a medical administrator, an architect/planner, a lawyer, two management specialists; and a behavioural scientist, the author of this paper. We have been trying to get an accountant for some time, and are at present making do by borrowing and part-timers.

We offer an unusual range of courses. Our Bachelor of Health Administration degree can be taken wholly by correspondence, part-time over six years, though we try to get students to do one full-time year on campus. This degree is also available full-time over three years, but so far there have been no takers for this; our Bachelor of Health Administration students all work their way through. A number come from isolated parts of Australia, and they come from all States.

The students who do this course are generally older than the average undergraduate (ages range from the early twenties to the fifties); they have generally had a reasonable amount of experience in the health field; their orientation is very practical and vocational. I would guess that we have more upwardly-mobile students than most other university departments: many have accounting or personnel administration backgrounds and our degree enables them to give their careers more scope. A few senior medical administrators also do this course, and we are now receiving applications from an increasing number of nurses. Our B.H.A. students tend, I think, to be more conservative and conventional than the average undergraduate—their age alone would account for this. They are also highly motivated and, if they survive the first crucial year, they tend to do quite well. Part-time students always work under difficulties; part-time correspondence students doubly so, since they have little access to libraries and no face-to-face tutorial help for the major part of the year. Once a year we run a week-long residential school in each of three States (N.S.W., Victoria and W.A.) and all B.H.A. students must attend one of these schools.

We also run two postgraduate courses. The first is a master's course leading to the degree of Master of Health Administration which can be done by course work in two full-time years; or by thesis only for graduates who have Honours degrees of the required standard. Most of the course-work students are young Commerce graduates, plus a sprinkling of doctors. Again these are older than

the average student, if only because they have already completed one degree.

Finally, there is our Graduate Diploma—a one-year full-time course, mostly done by doctors who have had some experience in administration and want to learn the theory. In many ways these are the brightest—but the least hardworking—of our students. Doctors have been trained to be like blotting paper: they can soak up information and have it squeezed out of them at the appropriate time. How much actually gets through past the memory barrier is anyone's guess: I'd like to know. Perhaps we can be evaluated by our T.E.R.C. one day.

Now, at last, to my own part in all this. My subject is Behavioural Science—and no one really knows what that entails. This suits me, because I enjoy ambiguity and the freedom to try different subject matter and method each year. It is quite a challenge to give the same course both by correspondence and on campus, as we all have to do in the B.H.A. degree.

The postgraduate courses aren't really at postgraduate level—these students have generally done no behavioural science at all, so I have to start from the beginning. But what *is* a beginning here, I ask myself. Certainly they need to know something about how societies are bound together; about social class, social institutions, social control and deviance. They must hear about the id, ego and superego, about motivation and perception. They should, I think, spend some time on communication theory and should have a good knowledge of group behaviour and leadership motivation. They should, ideally, learn about research methods in social science so that they will be able to read research reports with some understanding. And they should know about the writing of the organisation theorists so that they will understand the problems they face in the bureaucracies in which they all work.

But here's the rub: if I deal, in any depth, with all this subject matter, there is no time to do what I see as my prime task: to help these students to look critically at society, and at their own values and behaviour. In health care at present, our need—at the higher levels—is for people who can look critically at health delivery systems, and who are less concerned with their own power, status and vested interest than with the service they should render to the community. Few senior administrators, medical or non-medical, are able to do this. Doctors, nurses and accountants, three professions from which our students are largely drawn, have been specifically trained in convergent thinking and learning. They have been socialised in the acceptance of a world of facts which are

regarded as absolutely true and right, together with a belief that where right answers are as yet unknown they are discoverable. Examples of such beliefs are: a balance sheet must add up, the cause and cure of cancer is discoverable. But administration is not like that and the answers aren't always right or wrong, or even discoverable. How much delegation should there be? To whom should one delegate? What kind of organisational structure is suitable at present and for a particular task? Answers to these questions will vary according to the particular task, situation, timing and personnel.

Administrators in health services today are, like all organisation men, thrust into a world of rapid change. They can no longer concentrate on running a hospital, in isolation from other health and social welfare services around them. To teach them slabs of Behavioural Science "facts" would, I think, merely continue the track on which they already stand far too firmly. So before I go in for any "content", I attempt to teach them to ask questions. This process shows them that the questions we ask are our instruments of perception, and ensures that the particular aspects of subject matter with which we deal are perceived by the students as relevant to their needs at this particular time. They have to formulate *answerable* questions, and this demonstrates that the form of a question, and the assumptions beneath it, determine the nature of the answer: a practical example of selective perception.

In finding answers to their questions, the dubious evidence for the existence of any facts becomes evident to the students. Once you start analysing suicide, attempted suicide, and suicide statistics it becomes fairly obvious that it is very hard to say that one country's (or group's) suicide patterns are higher than another's, let alone explain such patterns. The fallibility of statements and facts is perhaps the one fact students must learn.

Further, it seems to me very important that students should realise how constrained all our thoughts are by the language we use. We see our world as our language tells us to. Our students many of whom have a medical background, tend to reify diseases and talk about "a disease" as if there is such an entity apart from the person who has the disease.

Both medical and administrative language are special ways of looking at the world; and those who use these languages miss important aspects which they need to see. Hence I spend some time on linguistics, though that may, by some people, be seen as falling outside my Behavioural Science territory. Yet the language of Behavioural Science too, obstructs—and clarifies, and should be regarded as part of the bias inherent in the subject.

So here I stand—with a home-brewed kind of course composed of problem-solving exercises, communications groups, role-playing on videotape, "stirring" so that students become uncomfortable and are forced to think again. Last year I tried another experiment—students in the Postgraduate Diploma, were given a number of books to read and review (each student read one book). Thus the whole class heard about a larger number of books than they could read themselves. And, in addition, there's the formal coursework as above including specific sections on medical sociology (for example, the infamous doctor-patient relationship, the process of becoming a patient, the place of health in society, the role of the health professions).

In looking critically at my teaching (I've been here for two years now) I ask: Where should my emphasis now lie? Is it more important to teach students to ask new questions, or should I concentrate on helping them to find a few answers? I too am in a state of ambiguity, and it will be interesting to see which direction the courses will take in 1974.

ENGINEERING, TECHNOLOGY AND APPLIED SCIENCE— EXAMPLES OF LONG-ESTABLISHED INTERDISCIPLINARY COURSES

A. P. PROSSER*

IN some academic circles interdisciplinary courses are a novelty and an attraction for the individual who feels he has something new to say about human endeavour. However, there are other interdisciplinary courses and departments which have existed for so long that they are rarely recognised as such. Engineering, technology and (industrial) applied science are examples.¹ They have lost their novelty in this respect and, with a few exceptions, are less attractive to the radical innovator than was so 20 years ago.

For those who are not aware of the make-up of a typical undergraduate course of this type, the principal disciplines are science, engineering science and engineering. Definitions of each which will suffice for this symposium are that pure (physical) science is the discipline of extending and ordering knowledge of the physical world, engineering is concerned with the production of commodities and services for some part of the community and engineering

* Senior Lecturer, School of Metallurgy, University of New South Wales.

¹ The three have much in common as far as this contribution is concerned and the use of one or other name in the text is arbitrary.